



TOWN OF ISLIP DEPARTMENT OF PLANNING AND DEVELOPMENT
Building Division

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Permits.....224-5466, 69
Records/Inspections.....224-5470
Plans Examiners.....224-5467, 68

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TOWN OF ISLIP AND THE 2007 BUILDING CODE OF NEW YORK STATE

GUIDELINES FOR COMMERCIAL BUILDING APPLICANTS

**Minimum Standards and Requirements for Building Permit Applications
and construction documents.**

Note: Town of Islip is in the 115 MPH wind zone.

The “Residential Code of New York State” is for detached single and two-family residences and single-family townhouses up to three stories in height. For all other buildings, refer to the “Building Code of New York State” and this guideline.

For the new 2007 Building Codes of New York State, it will be the responsibility of the New York State Licensed Design professional to submit a thorough and complete code analysis noting all methods used to show how the project will comply with all of the Codes. (Shell buildings will no longer be accepted.)

It is suggested that the design professional use the table of contents found in front of each of the codes as an outline. All codes, chapters and sections which will be used as well as all methods of compliance are to be listed on the construction documents. All documents such calculations (mechanical, plumbing and electrical), manufacturer and test agency documents, etc... must be submitted to substantiate code compliance. Any omission or missing information will not be accepted. Also for commercial buildings all materials including their hazard, toxicity, flammability and health hazard must be listed and noted. Storage buildings are to have all storage and control areas, system of storage and plans of storage shown. Industrial buildings shall indicate the same information and all industrial processes and equipment are to be shown on the plans.

Four sets of plans and specifications submitted to the Planning Department should be of sufficient nature to clearly describe the project with appropriate emphasis on the following:

1. Structural integrity
2. Life Safety
3. Barrier-free accessibility
4. Building codes compliance
5. Definition of scope of work

The type and number of drawings will depend greatly upon the size, nature and complexity of the project and the method of project delivery. The following is the recommended standard for most building projects. Additions and renovations, and some other project types may not require all of the following components for plan submittal and review for permit.

Cover Sheet:

1. Project identification
2. Project address and location map
3. Listing of Design professionals
4. The Prime professional. The design professional who is responsible for project coordination. All communications will be directed through this individual.
5. Design Criteria List
 - a. Occupancy group(s)
 - b. Type(s) of construction
 - c. Square footage/Allowable area (area modification calculations, if applicable).
 - d. Height and number of stories (height modification calculations, if applicable).
 - e. Fire sprinkler requirements (if applicable).
 - f. Occupant load
 - g. Capacity of means of egress

Site Plan: Show proposed new structure and any existing buildings or structures, property lines

with dimensions, streets and all complete widths, easements and setbacks. Show distance to structures of adjacent properties including uses and show all fire department equipment access roads (with materials and road pitch/grade). Show water, sanitary/storm sewer, and electrical points of connection. Identify location of proposed or existing fire hydrants, fire access roadway routes and existing utilities on the site. Show required parking (to include handicapped accessible parking), handicapped accessible route(s) of entry, placement of site lighting, proposed signage, drainage and grading information (with reference to finish floor and adjacent streets). Show drainage inflow and outflow locations. Please provide site plans in 1:20 scale. Show elevation changes with contour lines and provide contour interval in the site plan legend. Indicate northern orientation. Indicate site and building elevations and provide elevation topography lines.

Floor Plan: Show all floor levels including basement, mezzanines, control areas, storage racks and all machinery equipment. Indicate rooms with their primary use, overall dimensions and locations of structural elements and openings. Show doors and windows. Provide door, door hardware and window schedules. The fire resistance rating of shaft enclosures, walls, partitions, occupancy separations, opening protectives, and exterior walls should be shown with UL or GA design numbers or other design data from a nationally recognized testing laboratory. Show details and dimensions of handicapped accessibility features.

Foundation Plan: Indicate size, locations, and thickness of foundations and footings. Provide specified compressive strength of concrete. Provide specified strength and grade(s) for reinforcement, placement requirements for reinforcement, and detailing requirements for reinforcement (splices, anchorage, mechanical connections, etc.). Show location of construction, control, and isolation joints. Show imbedded anchoring such as anchor bolts, hold-downs, seismic straps and column base plates. Provide geotechnical criteria and assumptions used for foundation design. The method for diverting water away from the foundation must be shown on the plans.

Structural Plans: Provide live load and other load data used in the structural design. Provide size and location of structural elements, method of attachment, and material specifications. Provide specified strength and grade(s) for vertical reinforcement, placement requirements for vertical reinforcement, and detailing requirements for vertical reinforcement (splices, anchorage, mechanical connections, etc.). Provide framing plan for the roof structure. Provide method for support of openings. Also provide pre-fabricated building plans.

Exterior Elevations: Show all views to include roof plan. Indicate vertical dimensions and heights. Show dimensions of openings. Roof plan must show the location of exhaust terminations, sanitary sewer vent outlets, and intakes.

Building Sections and Wall Sections: Show dimensions of all heights. Identify construction materials, non-rated and fire rated assemblies and fire rated penetrations. Provide UL or GA design numbers or other design data from a nationally recognized testing laboratory for fire rated partitions, firewalls, floor/ceiling assemblies and ceiling/roof assemblies. Provide UL system number for penetrations in rated assemblies. Provide the UL fire resistant joint system numbers. Identify all exterior wall covering materials and means of fastening or attachment. Provide type(s) of wall covering, floor coverings, and ceiling finish materials. Provide specifications for the roofing materials to include fasteners, roof covering, underlayment, flashings, sheathing, and

drip-edge materials.

HVAC System: Indicate the heating ventilation/exhaust and air conditioning systems to include commercial hood systems and passive and active smoke control systems. Provide equipment schedule that includes type units, cooling/heating capacity (BTU and CF/hr), fan capacity (cfm), and heating type. Provide duct material type, sizes, mounting details, means of attachment, and air device sizes. Show or describe means of support for ducts and equipment, condensation drainage systems, fan shutdown requirements and connection to gas piping. Include all compliance and system design calculations.

Plumbing System: Show points of connection to septic tanks, public sanitary/storm sewer systems, water supply lines and other applicable utilities. Provide a water distribution diagram and sanitary sewer isometric. Provide a plumbing floor plan. Provide specifications for fixtures, piping, shutoff valves, slopes, materials and sizes. Provide specifications and location of water heater. Show water heater T/P relief valve and auxiliary pan drain lines, thermal expansion device, check valves and connection to gas piping (if applicable). Provide specifications and installation details for backflow device(s). Provide specifications and installation details for traps and interceptors. Include all design calculations for systems, loads venting and roof drain piping.

Electrical System: Show point of connection to utility. Provide an electrical riser diagram. Provide conductor type, wire insulation type and wire gauge. Provide conduit type(s), size(s), and conditions for use. Show branch and feeder circuiting. Show service means of disconnection, grounding electrode system details and specifications, equipment means of disconnection and grounding details and specifications. Provide electrical panel specifications, ratings, and schedules, single line diagrams, and electrical fixture schedules. Provide load calculations

Gas Systems: Show point of connection to utility. Provide a detailed piping plan. Show pipe size(s) and all outlets. Provide the type(s) of material to be used for piping. Provide method of support and bracing of gas piping. Show location(s) and provide specifications for gas shutoff valves. Provide gas equipment specifications to include input and output BTUH/MBTU/CFH and required installation clearances. Provide confined/unconfined space calculations and combustion air requirements. Provide types, sizes, and clearances for draft hoods, vents, and vent connectors.

Specifications: Either on the drawings or in booklet form, further define construction components, covering materials, finishes and all pertinent equipment. Include all equipment manufacturer documents, specifications, installation instructions, certifications, etc...

Addenda and Changes: It is the responsibility of the prime professional to provide notification of changes throughout the project. **Any material substitutability or alternate methods of construction must be approved by the architect or engineer of record and indicated on plans, specification booklet, or sealed and signed letter issued on corporate letterhead. Significant changes may require additional permit and plan review fees.**

Revisions: For clarity, all revisions should be appropriately identified. **Please accompany revisions to plans with a written explanation in the same order as our comments. This will allow us to quickly identify changes and expedite the plan review process.**

Pre-Engineered Buildings and Structural Components: Signed and sealed plans from the manufacturer/fabricator should be submitted with projects that use pre-engineered buildings and structural components. Design information provided should include data required in BCNYS Section 1603.

Bid documents are not accepted -- structures must be complete.

PLAN SUBMITTAL CHECKLIST

All Buildings except detached 1 ½ story single-family and single-family townhouses and three stories or less in height.

Drawings to be limited to 24" x 36"

Maximum - No exceptions will be returned otherwise.

FOOTING/FOUNDATION SUBMITTALS (Optional prior to full plan submittal) *with Commissioners written approval only.*

A. Design Load Key Plan (Ensure thorough coordination of structural design before construction begins.)

1. Live loads
2. Dead loads
3. Wind loads
4. Snow loads
5. Special loads (impact, drifting, equipment, steeples, shear walls, seismic, etc.)
6. Indication of load transfer down to the foundation

B. Footing/Foundation Plans

1. Sizes and depths of footings
2. Anchor bolts, reinforcing (sizes and locations)
3. Perimeter insulation
4. Shear wall hold downs

C. Site Plans

1. Distances to property lines, existing buildings, streets, etc.
2. Dimensional streets or fire department access roads
3. Pertinent recorded easements on adjoining property
4. Type of construction of existing buildings

D. Schematic Floor Plans, Elevations, Wall Sections

1. Exit stair locations
2. Fire walls
3. Window and fire department access openings

E. Calculations or Reference Tables

1. See section E under full plan Building Submittal

F. reserved

G. Footing/foundations requirements;

1. Soil properties (type of soil and bearing capacity of soil).
2. Footing & foundation sizes (width, length & depth), reinforcement, & anchor bolt details.
3. Reinforcing properties (location, size, type & grade of reinforcing).
4. Anchor bolt sizes, locations, embedment type (hooked tack-welded nut, etc.), projections above top of footings/foundations, and strengths & capacities of anchor bolts.
5. Pole embedment calculations (if applicable) for both side & end wall poles.
6. Retaining wall details as applicable (width, length & depth) & reinforcement.
7. Pile foundation details (type of piles used, depth, size & material strengths) as applicable.
8. Consideration of special loads such as buoyancy and hydrostatic loads as applicable.
9. Pole Building pole embedment and foundation calculations, and wall poles and calculations for pole sizing.

BUILDING SUBMITTAL (new and addition)

A. Footing/Foundation Plans

1. (See all items from Footing/Foundation Submittals)

B. Site Plans (Plan size plus 11"x 17" file copy for malls)

1. Distances to property lines, buildings on adjacent properties, streets, etc.
2. Dimensioned streets or access roads (full widths to be shown)
3. Pertinent recorded easements on adjoining property
4. Type of construction of existing buildings (on subject property and adjacent sites)
5. Barrier-free parking and access paths (include slopes)
6. Court widths
7. Fire department equipment access roads
8. Topography lines and building and site elevations
9. Indicate all utilities and location of all fire hydrants

C. Floor Plans (see also Chapter 4 of the BCNYS for malls)

1. Uses and sizes of rooms (no vacant areas and all spaces and layouts are to be labeled)
2. Exit location, width, lights, distance, distribution, door swings, ramp and stair design
3. Automatic fire sprinkler requirements (Chapter 9 by uses & occupancy, height above or below grade access, hazard protected areas, high piled storage, etc.)
4. Fire rated designs, required for issues such as building area limits, occupancy, class of

- construction, fire sprinkler limits (specify if fire wall, smoke or fire barrier, or fire partition)
5. Window light, ventilation and egress size, design pressure, water pressure, wind-born object penetration compliance, etc. and door schedules (sizes, fire ratings, safety glaze, undercutting, etc.)
 6. Sanitary facilities (types, numbers, and locations)
 7. Stair and shaft enclosures
 8. Isolation of hazards (amount and location of hazardous, toxic and flammable materials) and control/containment areas. Also show bulk storage and storage rack fire hazards.
 9. Smoke detectors (if needed)
 - a. Fire alarms (if needed), fire extinguishers
 - b. Barrier-free requirements
 - c. See Separate Section later in this booklet
 - d. Fire sprinklers if needed
 - e. Carbon monoxide detectors
- Occupancy special requirements (usually in Chapter 4)

D. Elevations/Sections

1. Grade, floor level, and roof elevations
2. Accessibility
3. Exterior openings and weather and fire protection thereof
4. Egress details (fire escape, assisted rescue platform, stairs)
5. Exterior finish
6. Depth of foundations
7. Stair, ramp & guard construction
8. Headroom
9. Construction materials used (structure, insulation, sheathings & finishes)
10. Structural connection required at load transfers
11. Floor framing and wall headers
12. Wind bracing

E. Building Plan Structural Submittals:

Please note that the following list of structural submittal requirements is not all-inclusive and the department may request additional information and/or calculations on a case by case basis.

1. Live loads (floor, roof crane, etc.)
2. Itemized dead loads,
3. Snow loads,
4. Impact loads,
5. Wind loads for main wind-force-resisting system, components and cladding.
6. Seismic design loads.
7. Special loads (drifting snow, equipment, steeples, sign, shearwalls, etc.), and
8. Continuous load transfer path to foundations. Structural Calculations sufficient to verify that all lateral load systems are carried to the Foundations.
9. All design loads shall be shown on the plans and within the calculations. Sample calculations. Sample calculations submitted shall show how the design loads were calculated. The following information, as a minimum, must be provided on the plans and/or calculations in order to determine the snow, wind, and seismic design loads

(where applicable):

- a. Terrain category,
- b. Exposure category and factors (snow & wind),
- c. Importance categories and factors (seismic, snow & wind),
- d. Site class determination,
- e. Seismic use group and design category,
- f. Design ground snow load, and
- g. Minimum wind design speed. (*Town of Islip is in the 115 MPH wind zone and part 2308 of the BCNYS is not permitted as noted*)
- h. Full compliance with all information and format of Chapter 16 BCNYS
- I. Full compliance with all information and format of Chapter 23 BCNYS for engineered design .

F. Framing requirements (floor & roof framing);

1. Member sizes, spacing, material properties and bridging requirements.
2. Materials (wood, steel, trusses, pre-cast, etc.), applicable adjustment factors, and allowable stresses of materials used (bending, shear, compressive, etc.) should be noted or in specifications.
3. Critical bearing, anchorage, & connections needed (when over code table minimum),
4. Shear wall details (if applicable) with at least: location, connector spacing, materials, design capacity of shear wall, and connections of shear wall to roof diaphragm, drag struts, and footings/foundation as applicable.
5. Calculations verifying capacity of floor/roof joists and headers supporting joists.
6. Calculations verifying capacity of diaphragms (include any adjustments) or highlighted table.
7. Structural calculations corresponding to framing plans.
8. Stud and pole design calculations as applicable.
9. Calculations for load transfer to foundations from roof and/or floor framing elements to the foundations, including design of all transferring elements (i.e.: columns, foundations, etc.)
- 10.. Lateral load design calculations and structural details. .
11. *At minimum 1 sample (critical spot) joist sizing calculation and 1 sample (critical span or load) support beam sizing calculation must be included in the submitted structural calculations. At least one door/window header calculation taken at the worst case must also be submitted to show adequate design. If diaphragm wind resistance building design, then at least one sample (critical) horizontal diaphragm and one shearwall design must be submitted showing loading is less than system design capacity for the attachment shown on plan.*

G. Masonry construction requirements;

1. Compliance with all of empirical masonry requirements or submitted engineered masonry calculations.
2. Block properties (material, thickness, and type (hollow or solid)).
3. Mortar type and properties of grout.
4. Lateral supports of masonry walls.
5. Reinforcement details (type, location, and strength).
6. Bonding requirements (type of bond and type of tie assemblies).
7. Anchorage of masonry to structural elements (for lateral support of masonry) and roof anchorage or floor anchorage to masonry bearing walls and nonload bearing

- exterior or interior masonry anchorage to structural framework.
- 8. Details of bearing or masonry or of masonry bearing on other materials (type & size needed).
- 9. Veneer details (materials, thickness, backing/bearing supports, method of attachment, joints and relief angles).
- 10. Control joints are provided at proper intervals.
- 11. *If using engineered masonry, then complete masonry calculations shall be submitted.*

H. Structural Component Plan Submittals:

Structural Components are those parts of a Building Structure that are pre-manufactured prior to arrival at the construction site. These include:

- 1. Wood Roof and Floor Trusses (including design calculations for all loads and connections. Connections are to be detailed)
- 2. Precast Concrete Slab & Wall Panels
- 3. Pre-engineered Metal Buildings.
- 4. Laminated Wood Beams
- 5. Steel Joint Girders

Plans and Calculations for these components are to be submitted prior to their manufacture and delivery. These documents are to be signed and sealed by a New York State licensed designed professional.

See BCNYS Section 1603 and all other code sections for additional information required on plans.

I. Specific Component Submittal Requirements:

1. Truss plan requirements:

- a. Indication of job in which trusses are to be used,
- b. Framing plans
- c. Location and designation of all trusses, and
- d. Bearing and anchorage conditions.
- e. Individual truss plans,
- f. Lumber species and grade of all members for wood trusses and material properties for open web steel trusses.
- g. Web and chord bracing requirements (locations),
- h. Bearing locations and reactions,
- i. Member connections, plate types, sizes, gage, orientation and locations,
- j. Capacity of connector plates (pounds per nail or pounds per square inch) or required number of nails or square inches of plate area required on each member of each joint, and materials approval number for connector plates or complete structural calculations for connector plates, and
- k. Adjustment factors (load duration, wt service factor, repetitive member factor, etc.).
- l. Truss calculations for all trusses, including valley, piggy back, side & end jacks. Calculations to include: Truss design loads (dead, live, lateral, special loads (drift, equipment, others), etc.); Combined effects of axial loads and bending moments on top and bottom chord members; Stress diagrams or calculations to determine axial loads; Complete connector plate calculations shall be shown on the plans (with any calculations required by it); Joist hanger and anchorage calculations (minimum bearing required); Calculations and

connections used to resist induced wind suction on open and enclosed structures; and Uplift calculations if trusses are used on a canopy or other open structure.

2. Pre-cast concrete plan requirements:

- a. Bearing and anchorage is required (clearly show restrained or non-restrained ends).
- b. Details of schedules or plans for plank, beams, and columns,
- c. Plank locations and designations of all pre-cast,
- d. Width and depth thickness and length of pre-cast members,
- e. Strand or reinforcement sizes, locations, and concrete cover thickness,
- f. Stirrup sizes and locations if required, and
- g. Fire resistive rating of pre-cast members if applicable.
- h. Structural calculations submitted for all beams, columns, or planks and panels.

3. Metal building plan requirements:

- a. Design loads with complete structural calculations for all beams, columns, girts, purlins, connections, bracing, roof and wall panels, etc. All member types and sizes are to be called out. Design of seismic and windforce resisting systems and details with required connections is to be shown on plans.
- b. Indication of job in which metal building is to be used and all beam, column, girt, and purlin locations and designations.
- c. Footing/foundation plans need to provide footing details (size & location), anchor bolt details (size, locations, & capacities), and side thrust restraint if applicable.
- d. Component plan requirements: Purlin and girt sizes and properties, Diagonal bracing locations and materials, Critical connections between load transferring members, Column, beams, and end-wall design & details, and Critical dimensions of webs and flanges of all members at the base, haunch, ridge, and any other location where the member size changes.
- e. ECCNYS compliance calculations (*building envelope may not comply with code.*)

4. Laminated wood plan requirements:

- a. Indication of job in which laminated wood is to be used,
- b. Framing plans need to be provided with laminated wood submittal if they were not provided at the time of building review or if such did not provide the following information on the framing plans,
- c. Location and designation of all laminated wood members, and
- d. Bearing and anchorage conditions.
- e. Laminated wood plans,
- f. Width, depth/thickness and length of laminated wood members,
- g. Lumber species and grade of all members,
- h. Sketch showing laminated wood geometry,
- i. Laminated wood design loads (live, dead, special loads, etc.),
- j. Bearing locations and reactions,
- k. Minimum bearing required,
- l. Adjustment factors (load duration, wet service, repetitive member factors, etc.).
- m. Bearing and anchorage details, and
- n. Structural calculations for laminated wood members

5. Structural Steel and Steel Truss Girder plan requirements:

- a. Indication of job in which materials are to be used,
- b. Framing plans need to be provided at the time of building review,
- c. Location and designation of all members,
- d. Bearing and anchorage details, and
- e. Design loading of each member (including all special loads).
- f. Complete Connection Details, Connector Plates, Bolts, Base plates and other connectors as required.
- g. Depth of girder trusses,
- h. Span of members,
- i. Panel point loads,
- j. Sketch showing girder truss geometry, connections, & member sizes, and
- k. Bracing locations and requirements.
- l. Design loads, and
- m. Structural calculations.

J. Fire-Resistive Details

1. Design, *and which BCNYS method used*, and listing of walls, ceilings, and roof systems (if required to be rated), restrained or unrestrained connection noted.
2. Location & extent (horizontally & vertically)
3. Materials used in the assembly
4. Assembly listing source, and
5. Hourly rating (on plan and section).
6. Complete section through the assembly (including required attachments),
7. Firestopping and firesafing (comply with tested & listed firestop systems) BCNYS 711,
8. Opening protective assemblies (label, size limits) BCNYS section 714, and
9. Draft Stopping BCNYS section 716.
10. *All supporting manufacture, Design Professional documentation and/or calculations.*

K. Building Envelope Thermal Calculations

1. Building envelope thermal compliance calculations must be sent with the Building Plans-
2. **Note:** These are considered a part of the Building Plans Submission not the HVAC Plans. Building Plans cannot be Approved without this submittal.
3. See BCNYS chapter 13 and ECCNYS section 101.5.

L. Miscellaneous Calculations:

1. Occupant load and exit width calculations, especially for large buildings.
2. Grade plane, height and number of stories above grade plane.
3. Sanitary fixture determination, minimum number of each fixture type.
4. Hazardous materials control area quantities (if applicable). *See next .*

DESIGN & PLAN REVIEW CONSIDERATIONS FOR FLAMMABLE/COMBUSTIBLE LIQUIDS STORAGE ROOMS

(STORED OR USED WITHIN A COMMERCIAL BUILDING)

WHAT TYPES OF CONSTRUCTION SHOULD ALERT A DESIGNER TO A

POTENTIAL DESIGN ISSUE?

Design professionals should verify with building owners/tenants if flammable/combustible liquids will be stored or used in conjunction with a commercial building (whether being built, altered, etc.).

Here are some examples of occupancies that should **red flag** that flammable/combustible liquids or gases are **likely** to be present and a storage room or tank approval may need to be sought:

- Repair Or Service Garages
- Woodworking Shops, Wood Fabrication Plans
- Cold Storage Use (Nonrefrigerated Facilities)
- School Specialty Areas Such As Chemistry Labs, Woodworking Shops, Art Rooms, Automotive Repair Shops, Body Shops, Ag Shops, Etc.
- Physical Plant “Storage” (E.G. At university Or Other Institutions)
- **Any** “Hazardous Material” Storage
- Facilities Involved in Plastics Manufacture
- Dry Cleaning Stores or Facilities
- Storage Areas in Hospitals, Clinics, Labs, Etc.
- Facilities That Use “Organic Coatings”
- Storage Areas in Mercantile Establishments That Sell any Kind of Chemicals, Sell Automotive Supplies, Or Perform Service Work, Etc.

If a chemical or material being used or stored is either a flammable/combustible liquid or gas, the building designer ***should request the material safety data sheet (MSDS)*** for each chemical with unknown properties or of concern.

Information that should be evaluated on the MSDS includes the flashpoints of the chemicals, the chemical properties (Does the chemical react with water? Is it corrosive?, etc.), and the hazards the chemical presents to people.

OTHER KEY INFORMATION THAT SHOULD BE ESTABLISHED TO DETERMINE REPORTING, STORAGE, SPRINKLERING OR OTHER REQUIREMENTS ARE:

- What are the quantities of each hazardous material or flammable/combustible liquid present, whether for manufacturing process, use or storage?
- If more than one day’s usage of chemical is in the building, then must provide proper storage with cabinets, rooms, or approved tanks. (NFPA 5-5.4)
- What type/size of containers or vessels will these materials or chemicals be stored in?
- Have the MSDS sheets available when working with the fire department and other code enforcement staff.
- Suggestion for improved site safety: maintain any emergency contact or special information where it is readily available to fire department staff or other staff who may respond in the event of an emergency or accident within the building or area where the chemicals or materials are.
- *Design Professional shall also verify amount and proposed type of storage of any toxic, flammable and hazardous products within the building and how these items will be contained. Areas and materials as noted herein shall be clearly marked on the*

construction documents. Methods of storage and rack plans will be required.

BUILDING SUBMITTAL (EXISTING BUILDINGS)

A. TENANT SPACE PLANS IN MULTIPLE TENANT BUILDINGS

1. Schematic Plan Indicating Existing Conditions. This Plan should show the complete existing facility, *including per stories*.
2. Complete building exiting plan showing all common exits and stairways,
3. All fire-resistive walls (ratings & locations),
4. Location and number of public sanitary facilities, and
5. Location of project within the building.
6. Pertinent Documents Such As Code Variances previously approved, and Condition of past plan approval that restrict this space or other spaces that affect or are affected by this space.
7. Building Submittal Requirements
8. All applicable items from previous building submittal list.

B. OTHER BUILDING ALTERATION SUBMITTALS

NOTE: In addition to the “general” and “occupancy” requirements shown on plans for the work being done, a SCHEMATIC of “existing” conditions pertinent to the work being done must be provided on the submitted plan set.

Schematic Plan of Existing Conditions Includes:

1. Site plan information including property lines,
2. Occupancy (prior to alterations),
3. Existing/new construction clearly identified,
4. Number of stories and roof elevations,
5. Class of construction,
6. Fire-resistive wall locations/ratings,
7. Sprinkler protected areas,
8. Existing floor plans, etc. - *All stories*,
9. Exit and stairway locations, and
10. Existing barrier-free features (entrances, toilet facilities, etc.)
11. Also include a summary of any previously approved petitions for variance,
12. *Drawings & plans drawn to scale.*

For NYS Code Compliance

1. *Design Professional must comply with Existing Building Code of NYS.*
2. *Two choices are provide for compliance with existing buildings. Chapter 3 or Chapter 13.*

To facilitate basic code compliance, we recommend the Designer take the following steps:

1. Determine applicable building occupancies; see BCNYS chapter 3 for descriptions. See

application form for where to check each occupancy type and the major occupancy use of the building. If multiple occupancies are found in the building, document how each is separated or not separated on the Multiple Occupancy Worksheet (or clearly show equivalent information on your own worksheets or complete information on the plans showing design intents). If any hazardous materials are to be used/stored in the building, clearly indicate the locations by using Control Area Worksheets (or your equivalent submittal).

No shell/vacant building. A use/occupancy must be given even for a shell/vacant building.

2. Use either of these methods to determine class of construction and allowable building area/height:

a. Variable Class of Construction Method: Based on desired area, height, fire department access, occupant capacity and sprinkler protection, determine minimum class of construction using occupancy and construction using occupancy and construction requirements. In some cases, by building a two-, three-, or four-hour fire-wall, a larger structure may be constructed (may treat each as a separate building per BCNYS 503.1). See BCNY Table 503 and Section.506 for table limit adjustments permitted; or

b. Fixed Class of Construction Method: Based on desired class of construction (see following Class of Construction listing and BCNYS section 602 for descriptions, select desired area, height, fire department access, occupant capacity and sprinkler protection combination allowed by occupancy chapter construction requirements. See the next page for a construction type table showing code references to approximate the previous code.

c. Reserved

3. Design building components based on class of construction requirements of BCNYS section 602 and general construction requirements of the BCNYS code. This includes checking the amount of protected and unprotected exterior wall openings meets limitations.

4. Check specific requirements of applicable occupancy in BCNYS Chapter 4 and reference general BCNYS Chapter 5-16 and 18-34 as needed. Clearly show code compliance on the submittal documents (plans, specifications, and calculations).

5. Reserved

6. *See also adopted appendixes by New York State.*

7. Check other general requirements of BCNYS chapters 2 to 34 as applicable, including, but not limited to:

- Incidental Use Areas: Table 302.1.1
- Occupancy Separations: Table 302.2
- Hazardous Materials: Tables 307.7(1), 307.7(2), 414.2.2. & 414.2.4
- Fire resistance ratings & penetrations: Chapter 7
- Interior finishes: Chapter 8
- Fire Protection Systems: Chapter 9
- Windows and Fire Dept. Access: 903.2.10
- Exiting: Chapter 10

- Accessibility-Appendix E and Chapter 11 of BCNYS
- Interior Environment: Chapter 12
- Exterior Walls: Chapter 14
- Roof & Penthouses: Chapter 15
- Structural: Chapters 16, 18-23
- Glass & Glazing: Chapter 24
- Gypsum Board & Plaster: Chapter 25
- Plastic (foam& light-transmitting): Chapter 26
- Sanitary Facilities: Chapter 29

8. Check efficiency requirements for envelope performance. *Per Chapter 13, and/or ECCCCNYS or approved computer software.*

9. Check the HVAC requirements *for BCNYS, MCNYS, FGCNYS, and plumbing requirements in the PCNYS.*

10. These steps will vary subject to individual occupancies, construction type, and design criteria based on materials used in the building.

BCNYS Multiple Use Options

(Steps vary according to whether designer has selected type of construction, number of stories or area first. Also see the Mixed Occupancies Worksheet.)

Incidental uses - Certain higher risk uses must be separated, sprinklered or both. Do not use the accessory use option. Alternatively, the appropriate occupancy classification may be assigned to the incidental use to some of them and a Mixed Use option (below) may be used. BCNYS 302.1

Accessory uses - Except for Group H occupancies, uses that are accessory to the main occupancy may be up to 10% of the floor area on a story, or also for Group A accessory uses up to 50 occupants or 750 sq. ft. without being separated. The height or area of an accessory use shall not exceed its Table 503 value. Note that unlimited area buildings could have large allowable accessory uses up to the applicable Table 503 value.

Mixed Use Options:

Non-separated Use Option (not available to H occupancies) BCNYS 302.3.1

- Apply most restrictive type of construction, height and area requirements to the building as a whole or to the fire area
- Apply other requirements to the specific occupancy area
- Apply fire protection thresholds and requirements based on each use to the whole building. Unless separated with fire barriers, a fire area includes multiple floors.
- Apply the most restrictive high rise requirements of Section.403 to the whole building
- Apply the exterior wall requirements according to the specific occupancy contained behind the wall
- Several non-separated uses may create a fire area in a building

Separated Use Option - creates separate fire areas BCNYS 302.3.2

- There is no requirement to separate like uses (same occupancy group & subgroup), even if under separate ownership, but separating them will reduce the fire area, which certain other requirements are based on
- If multi-story, determine the minimum class of construction for each occupancy on **its floor**
- Apply most restrictive type of construction requirements to the whole building
- Cannot take sprinkler increase unless the whole building is completely sprinkler protected
- Can apply the frontage increases based on the total building perimeter, not just the perimeter of the individual occupancies
- Apply the exterior wall requirements according to the specific occupancy contained behind
- If several occupancies are on the same floor, then need to pro-rate the allowable areas so that the sum of the fractions of actual to allowable areas does not exceed 1. (Note that if occupancy is allowed unlimited table area, then ignore it in this calculation.)
- Apply fire protection thresholds and then the requirements to fire area or building as indicated.

Firewall-Separated Uses - creates separate buildings (*This is voluntary, not mandated. Prior code Section 701 – is not addressed in new code.*)

- Apply type of construction requirements, height and area requirements to each part separately
- Apply fire protection requirements to each part as separate buildings
- Sprinklering credit may apply to just the sprinkler protected portion

Other Relevant Code Sections:

Section 307.2 and 415 H uses - If hazardous material is kept to less than what is allowed in a control area or fire barriers are provided to create control areas up to what is allowed by the code, then there is not separate H occupancy.

Section 402 Shopping Malls - Requires a one-hour fire partition between tenant spaces of a shopping mall.

Section 415.3.2 - Requires that all H-1 occupancies and certain H-2 and H-3 occupancies be in separate buildings.

Section 507.6 H-2, H-3 & H-4 occupancy in an unlimited area building - In an F or S occupancy, an H fire area located on the building perimeter can be the lesser of 10% of building area or Table 503, as modified for frontage **on the H fire area only**. If the H fire area is not on the building perimeter, then only 25% of the Group H-2, H-3 or H-4 Table 503 area is allowed.

Section 508 Options - This section has several options that permit a 3-hour horizontal separation between a parking garage with independent means of egress and certain other occupancies to create separate buildings for purposes of height & area, class of construction and sprinkler protection.

CONSTRUCTION CLASSIFICATION: OLD VS. NEW

<i>NYS Former Building Code</i>	<i>Commercial Building Code</i>	<i>NYS Building Code</i>
Type 1: Fire Resistive - Type A		Type IA
Type 1: Fire Resistive - Type B		Type IB
Type 2A: Metal Frame - Protected		Type IIA
Type 3: Heavy Timber		Type IV
Type 4A: Exterior Masonry - Protected		Type IIIA
Type 4B: Exterior Masonry - Unprotected		Type IIIB
Type 2B: Metal Frame - Unprotected		Type IIB
Type 5A: Wood Frame - Protected		Type VA
Type 5B: Wood Frame - Unprotected		Type VB

The above chart shows a generalized conversion from the previous *NYS Building Code* construction classification types to the approximate construction classifications which most closely contain similar construction designs. Each situation needs to be separately analyzed for compliance. The above Table is an Approximation Only.

As in previous codes, the present code is also not retroactive. Thus, if the building met the code at the time it was constructed or at the time it was changed into its present use, it is still compliant for the life of that building in that use. Alterations and additions to those buildings under a previous code must be carefully undertaken to permit the untouched areas to remain in compliance with the code at the time they were constructed, while meeting all of the present code requirements for those areas altered or affected by the addition. In some cases, a fire division wall per BCNYS section 705 may be necessary to separate an addition from the original building.

The BCNYS Chapter 6 does have some differences in materials not permitted in certain classifications and certain allowances for materials in other classifications. There is also an extensive list of exceptions to allow some combustible materials in noncombustible Type I & II constructions and a much longer description of acceptable Type IV heavy timber materials.

Building designers and code officials should refer to BCNYS Section 602 and Table 601 for the minimum construction requirements to determine the classification of construction of a building.

A couple significant points include:

- BCNYS Type IIB, unprotected steel construction, does **not** permit the substitution of 1-hour combustible construction.
- BCNYS Types IIIA and IIIB do not require exterior masonry *within* but they do often require rated NC (noncombustible) or FRTW (fire-retardant treated wood) framed exterior walls.
- Although Heavy Timber construction is numbered BCNYS Type IV, *Type III in old code*, there are major differences of noncombustible exterior walls and no concealed structural spaces are permitted (1 exception).
- Most typical pole buildings are likely to be BCNYS Type VB. However, a pole building with fire-retardant treated girts and noncombustible siding, when it is at least 30' to property lines may meet BCNYS Type IIIB classification.

If, after reading BCNYS Section 602, you still have a question with what materials are allowed for a specific building construction type, please contact *NYS DOS Codes Division at 518-474-4073 for tech assistance, or the Hauppague office at 631-952-4912.*

HEATING VENTILATING AND AIR-CONDITIONING (HVAC) PLAN SUBMITTALS

A. Floor Plan

1. Corresponds to approved building plans, including Interior Layout, Room Names & Uses, Wall & Roof Insulation R-Values, Door & Fenestration R-Values
2. Location, volume, and/or rates in CFM of exhaust, outdoor air, and combustion air
3. Location of equipment, fire dampers, fire dampers, fire wraps, kitchen hood exhaust duct, grease duct, grease duct enclosures, and suppression systems.
4. HVAC distribution via ductwork
5. Metal duct gauge, geometry (round, square, rectangular)
6. Flexible duct diameter, specification
7. Flexible connector diameter, length limitations
8. Underground duct construction, materials, vapor barriers, insulation, clearances
9. Duct sealing requirements stated

B. Section or Details

1. Insulation, type, R-value labeling required on plans and in the field
2. Pipe
3. Exhaust rates in CFM
4. Hood construction
5. Plenum material and location
6. Air transfer to hallways only as allowed by code
7. Clothes dryer exhaust duct distribution
8. Metal duct gauge, geometry, means of fastening, maximum length
9. Transition duct limitations & requirements

C. Equipment Information

1. Schedules, plan references, associated air movement rates in CFM
2. Indicate passed ASTM/UL/NFPA/ANSI standards referenced in code(s)
3. Operation & controls
4. Installation of Economizer indicated if required and part of installation
5. Installation of Make-up air
6. Platform & clearance locations for rooftop equipment defined
7. Guardrail location and dimensions for roof equipment as required by code
8. Condensate disposal
9. Smoke detection system (if required)
10. Smoke detector locations, model, defined, installation defined
11. Control panel location, model defined
12. Smoke control system (if required)
13. Apparatus used (based on submitted calculations)
14. Control panel location

Calculations

1. Room by room heat loss calculations
2. Heat gain calculations may be done by area served by appliance (if AC provided)
3. Transmission plus greater of infiltration or ventilation (furnace sizing)
4. Volume of exhaust and outdoor air intake

5. Minimum combustion air requirements
6. Smoke control system sizing

Occupancy or “Use” Ventilation Requirements

1. See Chapter 4 MCNYS

Minimum Clearances

1. Outside air intakes to property lines
2. Distance intake to exhaust ventilation
3. Overhead clearances (suspended appliance)
4. Location of intakes above ground/roof

Combustion Air

1. Define if “usually tight” design
2. Define infiltration versus outside air use
3. Location of openings &/or ducts
4. Size of ducts and louvers or grills

Balancing Manual is Required on Site

Maintenance Manual is Required to be Provided to Owner

OTHER MISCELLANEOUS PLAN SUBMITTALS

A. Sprinkler system and/or fire alarm system plans may also be required to be submitted, see separate checklist and thresholds. *Contact Town of Islip Fire Prevention Office (631) 224-5477.*

B. Plumbing plan submittals - *See PCNYS*

C. Reserved

D. Elevator and Escalator Plan Submittals *to be provided with all compliance noted. See BCNYS Chapter 30 and ASME/ANSI A-17.1 of 2004 and ICC/CABO 2003*

E. Swimming Pool and Alarm Plan Submittals may be required; *see BCNYS Section 3109 and NYS/SC Depts. of Health.*

F. *For boilers see BCNYS, ECCCNY, FCNYS, FGCNYS, MCNYS and PCNYS.*

HVAC EQUIPMENT REPLACEMENT

1. **Equipment “replacement”**: the removal of existing, and the installation of new heating, ventilating, or air conditioning equipment with no changes to existing ductwork or piping other than those necessary to fit the new equipment to the existing system. “Replacement” does not include changing equipment sizes or capacities to accommodate building alterations or additions. Substantial changes to ductwork or piping and changes to HVAC equipment sizes or output capacities due to a building addition or alteration, does require HVAC alteration plans to be

submitted.

2. **“One-for-one” HVAC/boiler/refrigeration equipment replacements** do **not** need to be submitted for review but installation must comply with all New York State Codes.

3. **Replacement of equipment (identical or closely similar in size)**; No state fee or submittal required.

4. **Replacement of equipment (substantially larger or smaller in size)**: Submittal is required. “Substantially” means that the output of the new equipment is greater than 15 percent more or less than the original equipment. Submittal shall include:

- a. At least four copies of a letter giving the make, model, and BTU output of the equipment being replaced; the make, model, and BTU output of the replacement equipment; and specific UL, AGA, PES, or other recognized laboratory approval;
- b. If the BTU output of the replacement equipment is substantially less than that of the equipment being replaced, HVAC heat loss calculations must be submitted proving the adequacy & code compliance of the smaller unit(s);
- c. The letters and calculations must be signed, sealed, and dated by a NY registered architect, engineer, or HVAC designer.

5. **Heating ONLY** equipment is **replaced with** equipment capable fo **both heating and cooling**: Submittal required.

6. **Installation of stand-alone equipment** (fireplaces, range hoods, waste oil burners, etc.): Submittal required.

7. In all cases involving new equipment, if the new equipment will require fire-rated isolation from the balance of the building where the old equipment did not, evidence of a rated enclosure must be submitted. Typical examples of this type of replacement include changing: from electric to gas-fired or else from direct-vent sealed combustion chamber gas-fired to traditional gas-fired. Evidence of rated enclosure consists of a letter from an architect, engineer, or certified commercial building inspector stating there is an existing rated room and giving the fire rating of that room in hours. If the room is not adequate, submission must include the building of a new rated room.